Aggressive Client Load Balancing

Information About Aggressive Client Load Balancing

The Aggressive Client Load Balancing feature allows lightweight access points to load balance wireless clients across access points.

When a wireless client attempts to associate to a lightweight access point, the associated response packets are sent to a client with an 802.11 response packet including status code 17. This code 17 indicates that the corresponding AP is busy. The AP does not respond with the response 'success' if the AP threshold is not met, and with code 17 (AP busy) if the AP utilization threshold is exceeded, and another less busy AP hears the client request.

For example, if the number of clients on AP1 is more than the number of clients on AP2 and the load-balancing window, then AP1 is considered to be busier than AP2. When a client attempts to associate to AP1, the client receives an 802.11 response packet with status code 17, indicating that the access point is busy, and the client attempts to associate to a different access point.

You can configure the controller to deny client associations up to 10 times (if a client attempts to associate 11 times, it will be allowed to associate on the 11th try). You can also enable or disable load balancing on a particular WLAN, which is useful if you want to disable load balancing for a select group of clients, such as time-sensitive voice clients.

Note A voice client does not authenticate when delay is configured to more than 300 ms. To avoid this, configure a central-authentication, local-switching WLAN with Cisco Centralized Key Management (CCKM), configure a pagent router between an AP and WLC with a delay of 600 ms (300 ms UP and 300 ms DOWN), and try associating the voice client.

Note For a FlexConnect AP, the association is locally handled. The load-balancing decisions are taken at the controller. A FlexConnect AP sends an initial response to the client before knowing the result of the calculations in the controller. Load-balancing does not take effect when the FlexConnect AP is in standalone mode.

A FlexConnect AP does not send (re)association response with status 17 for load balancing the way local-mode APs do; instead, it first sends (re)association with status 0 (success) and then deauth with reason 5.

Note This feature is not supported on the APs joined on default-site-tag.

This feature is not supported on the APs across different named site-tags.

This feature is supported only on the APs within a named-site-tag.

Enabling Aggressive Client Load Balancing (GUI)

Procedure

Step 1 Choose **Configuration > Wireless > WLANs > Wireless Networks**.

Step 2 Select a **WLAN** to view the **Edit WLAN** window.

Step 3 Click **Advanced** tab.

Step 4 Select the **Load Balance** check box to enable the feature.

Step 5 Click **Update & Apply to Device**.

Configuring Aggressive Client Load Balancing (GUI)

Procedure

Step 1 Choose **Configuration > Wireless > Advanced**.

The **Load Balancing** window is displayed.

Step 2 In the **Aggressive Load Balancing Window (clients)** field, enter the number of clients for the aggressive load balancing client window.

Step 3 In the **Aggressive Load Balancing Denial Count** field, enter the load balancing denial count.

Step 4 Click **Apply**.

Configuring Aggressive Client Load Balancing (CLI)

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device# enable`	Enters privileged EXEC mode.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**wlan** *wlan-name* **Example:** `Device(config)# wlan test-wlan`	Specifies the WLAN name.
Step 4	**shutdown** **Example:** `Device(config-wlan)# shutdown`	Disables the WLAN.
Step 5	**load-balance** **Example:** `Device(config-wlan)# load-balance`	Configures a guest controller as mobility controller, in order to enable client load balance to a particular WLAN. Configure the WLAN security settings as the WLAN requirements.
Step 6	**no shutdown** **Example:** `Device(config-wlan)# no shutdown`	Enables WLAN.
Step 7	**end** **Example:** `Device(config)# end`	Returns to privileged EXEC mode. Alternatively, you can also press **Ctrl-Z** to exit global configuration mode.
Step 8	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 9	**ap dot11** {**24ghz** | **5ghz**} **load-balancing denial** *denial-count* **Example:** `Device(config)# ap dot11 5ghz load-balancing denial 10`	Configures the load balancing denial count.

	Command or Action	Purpose
Step 10	**ap dot11** {**24ghz** | **5ghz**} **load-balancing window** *number-of-clients* **Example:** `Device(config)# ap dot11 5ghz load-balancing window 10`	Configures the number of clients for the aggressive load balancing client window.
Step 11	**end** **Example:** `Device(config-wlan)# end`	Returns to privileged EXEC mode.
Step 12	**show running-config | section** *wlan-name* **Example:** `Device# show running-config | section test-wlan`	Displays a filtered section of the current configuration.